

INTERNATIONAL PRELIMINARY EXAMINATION REPORT  
(PCT Article 36 and Rule 70)

10/520.729

Applicant's or agent's file reference 1	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/PH 02/00013	International filing date (day/month/year) 09.07.2002	Priority date (day/month/year) 09.07.2002
International Patent Classification (IPC) or both national classification and IPC G01R31/308		
Applicant SALOMA, Caesar A. et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.


2. This REPORT consists of a total of 5 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 3 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand  09.02.2004	Date of completion of this report  16.06.2005
Name and mailing address of the international preliminary examining authority:   European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer  Böhm-Pélissier, A  Telephone No. +49 89 2399-2495



# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/PH 02/00013

## I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

### Description, Pages

1-8 as published

### Claims, Numbers

1-11 received on 20.05.2005 with letter of 20.05.2005

### Drawings, Sheets

1/3-3/3 as published

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes: Claims	1-11
	No: Claims	
Inventive step (IS)	Yes: Claims	1-11
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-11
	No: Claims	

2. Citations and explanations

**see separate sheet**

**RE-item V**

- D1: XU C ET AL: "COMPARISON OF ONE- AND TWO-PHOTON OPTICAL BEAM-INDUCED CURRENT IMAGING" JOURNAL OF APPLIED PHYSICS, AMERICAN INSTITUTE OF PHYSICS. NEW YORK, US, vol. 86, no. 4, 15 August 1999 (1999-08-15), pages 2226-2231, XP000934880 ISSN: 0021-8979
- D2: RIBES A C ET AL: "Reflected-light, photoluminescence and OBIC imaging of solar cells using a confocal scanning laser MACROscope/microscope" SOLAR ENERGY MATERIALS AND SOLAR CELLS, ELSEVIER SCIENCE PUBLISHERS, AMSTERDAM, NL, vol. 44, no. 4, 15 December 1996 (1996-12-15), pages 439-450, XP004065716 ISSN: 0927-0248
- D3: MONTANGERO P ET AL: "A SOM approach to the failure physics of optoelectronic devices" PROCEEDINGS OF THE INTERNATIONAL RELIABILITY PHYSICS SYMPOSIUM. ATLANTA, MAR. 23 - 25, 1993, NEW YORK, IEEE, US, vol. SYMP. 31, 23 March 1993 (1993-03-23), pages 380-385, XP010104598 ISBN: 0-7803-0782-8
- D4: NIKAWA K ET AL: "Failure analysis case studies using the IR-OBIRCH (infrared optical beam induced resistance change) method" TEST SYMPOSIUM, 1999. (ATS '99). PROCEEDINGS. EIGHTH ASIAN SHANGHAI, CHINA 16-18 NOV. 1999, LOS ALAMITOS, CA, USA, IEEE COMPUT. SOC, US, 16 November 1999 (1999-11-16), pages 394-399, XP010364870 ISBN: 0-7695-0315-2
- D5: US-A-5 381 224 (DIXON ARTHUR E ET AL) 10 January 1995 (1995-01-10)
- D6: DE 197 33 194 A (ZEISS CARL JENA GMBH) 4 February 1999 (1999-02-04)
- D7: PATENT ABSTRACTS OF JAPAN vol. 2000, no. 06, 22 September 2000 (2000-09-22) & JP 2000 088929 A (JEOL LTD;NIPPON DENSHI RAIOSONIKKU KK), 31 March 2000 (2000-03-31)

The present patent application is related to improved optical beam-induced current (OBIC) and confocal reflectance imaging by generating 2 images combining one photon OBIC (1P) and confocal reflection (CR) images to two high contrast 1P-CR images. One image is created by the pixel to pixel product of the 1P and the CR image ( $1P \times CR$ ). The second image is created with the complementary 1P image ( $1P \times CR$ ,  $1P = I_{1P \max} - 1P$ ).

D1, which is considered to represent the closest prior art, describes both 1P and CR high

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contrast imaging, but does not disclose or teach generating 2 images combining 1P and CR images to two high contrast 1P-CR images.

D2 and D3 also describe both 1P-OBIC and CR imaging, but do not disclose or teach generating 2 images combining 1P and CR images to two high contrast 1P-CR images.

D4-D7 describe details of OBIC/CR imaging and the corresponding experimental setups.

None of these documents discloses or teaches the Generation of a (1PxCR) and (1PxCr) image.

Consequently, Claim 1 and its dependent claims 2-10 are novel and inventive.

Comments:

The present set of claims lacks reference signs (Rule 6.2(b) PCT) and the two-part form (Rule 6.3 PCT), i.e between step (ii) and (iv). The description lacks the discussion of D1-D7.